

Attorney Docket #1300-009

**AMENDED CLAIMS:***Please cancel claim 50.*

Please amend claims 21 and 48 as follows:

21. The UV system according to claim 20, wherein [the] an interface zone that is formed at the interface plate [further] includes at least one additive that influence characteristics of the fluid as the fluid passes through the interface zone and over [the] a surface zone that exists at a superior surface of the interface plate that is positioned closest to the UV light source.

48. The UV system according to claim 36, wherein [the] an interface zone that is formed at the interface plate [further] includes at least one additive that influence characteristics of the water as the water passes through the interface zone and over [the] a surface zone that exists at a superior surface of the interface plate that is positioned closest to the UV light source.

Please amend claims 22 and 49 as follows:

22. The UV system according to claim 21, wherein the at least one additive is selected from the group consisting of TiO<sub>2</sub>, WO<sub>2</sub>, ZnO, ZnS, SnO<sub>2</sub>, and PtTiO<sub>2</sub> [and the like].

49. The UV system according to claim 48, wherein the at least one additive is selected from the group consisting of TiO<sub>2</sub>, WO<sub>2</sub>, ZnO, ZnS, SnO<sub>2</sub>, and PtTiO<sub>2</sub> [and the like].

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Please amend claims 9, 20, 31-32, 35, 47, 55, 61, and 64 follows:

9. The UV system according to claim 7, wherein the fiber optic transmission lines having a first end connected to the housing output such that the UV light output from the housing passes through the fiber optic transmission lines and exiting from a second end such that the UV light output exiting the fiber optic transmission lines is projected into the [water] fluid.

20. The UV system according to claim 2, further including a vertical riser configuration (VRC) wherein the [water] fluid is moved at a predetermined rate toward the UV light output thereby producing an increasing UV dose zone within the [water] fluid as it approaches the light output.

31. The UV system according to claim 1 wherein the at least one optical component includes fiber optic transmission lines having a first end connected to the housing output such that the UV light output from the housing passes through the fiber optic transmission lines and exiting from a second end such that the UV light output exiting the fiber optic transmission lines is projected into the [water] fluid.

32. The UV system according to claim 26, wherein the at least one optical component is a lens for focusing light from the light source through an output point in the housing and into the [water] fluid for disinfection thereof.

35. The UV system according to claim 1, wherein the at least one UV light source is positioned outside the [water] fluid to be treated thereby providing effective sterilization of microorganisms within the [water] fluid.

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47. The UV system according to claim 36, further including a vertical riser configuration (VRC) wherein the [water] fluid is moved at a predetermined rate toward the UV light output thereby producing an increasing UV dose zone within the [water] fluid as it approaches the light output.

55. The UV system according to claim 36, wherein the at least one optical component includes fiber optic transmission lines having a first end connected to the housing output such that the UV light output from the housing passes through the fiber optic transmission lines and exiting from a second end such that the UV light output exiting the fiber optic transmission lines is projected into the [water] fluid.

61. The UV system according to claim 52, wherein the at least one optical component is a lens for focusing light from the light source through an output point in the housing and into the [water] fluid for disinfection thereof.

64. A method for purifying waste-containing fluids comprising the steps of:  
providing the fluid to be treated in a reservoir;

exposing the reservoir and fluid to a UV system comprising at least one light source positioned in a housing and connected to a power source for producing a UV light output from the housing, the system including at least one optical component positioned between the at least one light source and the UV light output from the housing;

producing a focused, controllable UV light output that has at least one UV dose zone for providing effective sterilization of microorganisms within the [water] fluid.

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**NON-MARKED/CLEAN COPY OF AMENDED CLAIMS:**

A3 9. The UV system according to claim 7, wherein the fiber optic transmission lines having a first end connected to the housing output such that the UV light output from the housing passes through the fiber optic transmission lines and exiting from a second end such that the UV light output exiting the fiber optic transmission lines is projected into the fluid.

A4 20. The UV system according to claim 2, further including a vertical riser configuration (VRC) wherein the fluid is moved at a predetermined rate toward the UV light output thereby producing an increasing UV dose zone within the fluid as it approaches the light output.

A1 21. The UV system according to claim 20, wherein an interface zone that is formed at the interface plate includes at least one additive that influence characteristics of the fluid as the fluid passes through the interface zone and over a surface zone that exists at a superior surface of the interface plate that is positioned closest to the UV light source.

22. The UV system according to claim 21, wherein the at least one additive is selected from the group consisting of TiO<sub>2</sub>, WO<sub>2</sub>, ZnO, ZnS, SnO<sub>2</sub>, and PtTiO<sub>2</sub>.

A5 31. The UV system according to claim 1 wherein the at least one optical component includes fiber optic transmission lines having a first end connected to the housing output such that the UV light output from the housing passes through the fiber optic transmission lines and exiting from a second end such that the UV light output exiting the fiber optic transmission lines is projected into the fluid.

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A5 32. The UV system according to claim 26, wherein the at least one optical component is a lens for focusing light from the light source through an output point in the housing and into the fluid for disinfection thereof.

A6 35. The UV system according to claim 1, wherein the at least one UV light source is positioned outside the fluid to be treated thereby providing effective sterilization of microorganisms within the fluid.

A7 47. The UV system according to claim 36, further including a vertical riser configuration (VRC) wherein the fluid is moved at a predetermined rate toward the UV light output thereby producing an increasing UV dose zone within the fluid as it approaches the light output.

A2 48. The UV system according to claim 36, wherein an interface zone that is formed at the interface plate includes at least one additive that influence characteristics of the water as the water passes through the interface zone and over a surface zone that exists at a superior surface of the interface plate that is positioned closest to the UV light source.

49. The UV system according to claim 48, wherein the at least one additive is selected from the group consisting of TiO<sub>2</sub>, WO<sub>2</sub>, ZnO, ZnS, SnO<sub>2</sub>, and PtTiO<sub>2</sub>.

54. ~~55.~~ The UV system according to claim 36, wherein the at least one optical component includes fiber optic transmission lines having a first end connected to the housing output such that the UV light output from the housing passes through the fiber optic transmission lines and exiting from a second end such that the UV light output exiting the fiber optic transmission lines is projected into the fluid.

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A 9 ~~60-61~~<sup>51</sup> The UV system according to claim ~~52~~<sup>51</sup>, wherein the at least one optical component is a lens for focusing light from the light source through an output point in the housing and into the fluid for disinfection thereof.

A 10 ~~63-64~~ A method for purifying waste-containing fluids comprising the steps of:  
providing the fluid to be treated in a reservoir;  
exposing the reservoir and fluid to a UV system comprising at least one light source positioned in a housing and connected to a power source for producing a UV light output from the housing, the system including at least one optical component positioned between the at least one light source and the UV light output from the housing;  
producing a focused, controllable UV light output that has at least one UV dose zone for providing effective sterilization of microorganisms within the fluid.

### ARGUMENTS

#### Rejection of Claims on Art Grounds in the 05 July 2001 Office Action, and Traversal Thereof

In the 05 July 2001 Office Action, claims 1-70 have been rejected on prior art grounds, under 35 U.S.C 102 and 103, as follows:  
claims 1-3, 20, 26, 36-37, 53 and 63 as being anticipated under 35 U.S.C 102 by Free (US Patent No. 4,008,045) and claims 1-3, 17-19, 26, 29-30, 34-37, 44-45, 48-54, and 63 as being anticipated by Zhang, et al. (US Patent No. 5,501,801); and  
claims 4-7, 16, 20-25, 27-28, 32-33, 38-43, 46-47, 61-62, and 64-70 have been rejected on prior art grounds under 35 U.S.C. 103(a) as being unpatentable over Zhang, et al. and further in view of Free;